

## 6202.0 - Labour Force, Australia, Jan 2016

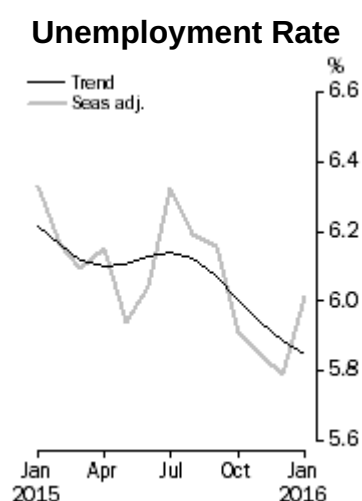
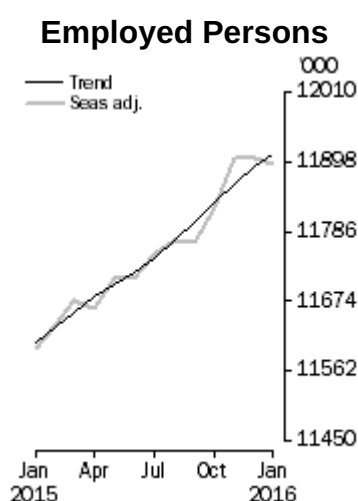
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## Summary

### Main Features

#### JANUARY KEY FIGURES

	Dec 2015	Jan 2016	Dec 15 to Jan 16	Jan 15 to Jan 16
<b>Trend</b>				
Employed persons ('000)	11 890.1	11 909.9	19.8	2.6%
Unemployed persons ('000)	743.7	739.4	-4.4	-3.9%
Unemployment rate (%)	5.9	5.8	0.0pts	-0.4pts
Participation rate (%)	65.2	65.2	0.0pts	0.5pts
<b>Seasonally Adjusted</b>				
Employed persons ('000)	11 902.4	11 894.5	-7.9	2.6%
Unemployed persons ('000)	731.2	761.4	30.2	-2.8%
Unemployment rate (%)	5.8	6.0	0.2pts	-0.3pts
Participation rate (%)	65.2	65.2	0.0pts	0.5pts



#### JANUARY KEY POINTS

#### TREND ESTIMATES (MONTHLY CHANGE)

- Employment increased 19,800 to 11,909,900.
- Unemployment decreased 4,400 to 739,400.
- Unemployment rate decreased less than 0.1 pts to 5.8%, based on unrounded

estimates.

- Participation rate remained steady at 65.2%.
- Monthly hours worked in all jobs increased 3.6 million hours to 1,652.7 million hours.

## **SEASONALLY ADJUSTED ESTIMATES (MONTHLY CHANGE)**

- Employment decreased 7,900 to 11,894,500. Full-time employment decreased 40,600 to 8,185,800 and part-time employment increased 32,700 to 3,708,700.
- Unemployment increased 30,200 to 761,400. The number of unemployed persons looking for full-time work increased 25,600 to 544,100 and the number of unemployed persons only looking for part-time work increased 4,600 to 217,300.
- Unemployment rate increased 0.2 pts to 6.0%.
- Participation rate remained steady at 65.2%.
- Monthly hours worked in all jobs increased 10.9 million hours to 1,656.0 million hours.

## **NOTES**

### **FORTHCOMING ISSUES**

#### **ISSUE**

February 2016  
March 2016  
April 2016  
May 2016  
June 2016  
July 2016

#### **Release Date**

17 March 2016  
14 April 2016  
19 May 2016  
16 June 2016  
14 July 2016  
18 August 2016

### **WHAT'S NEW IN THE LABOUR FORCE**

For details regarding the regular update to the seasonal adjustment process, the future dissemination of detailed Labour Force data, a new analysis spreadsheet and the publication of quarterly rebenchmarked data, refer to the "What's new in the Labour Force" on pages 8-9.

### **ROUNDING**

Estimates of changes shown on the front cover and used in the commentary have been calculated using unrounded estimates, and may be different from, but are more accurate than, movement obtained from the rounded estimates. The graphs on the front cover also depict unrounded estimates.

### **SAMPLING ERROR**

The estimates in this publication are based on a sample survey. Published estimates and movements are subject to sampling variability. Standard errors give a measure of sampling variability. The interval bounded by two standard errors is the 95% confidence interval, which provides a way of looking at the variability inherent in estimates. There is a 95%

chance that the true value of the estimate lies within that interval.

## **MOVEMENTS IN SEASONALLY ADJUSTED SERIES BETWEEN DECEMBER 2015 AND JANUARY 2016**

	<b>Monthly change</b>	<b>95% Confidence interval</b>		
Total Employment	-7 900	-66 500	to	50 700
Total Unemployment	30 200	-9 600	to	70 000
Unemployment rate	0.2 pts	-0.2 pts	to	0.6 pts
Participation rate	0.0 pts	-0.4 pts	to	0.4 pts

### **INQUIRIES**

For further information about these and related statistics, email [client.services@abs.gov.au](mailto:client.services@abs.gov.au) or contact the National Information and Referral Service on 1300 135 070.

## **Labour Force Commentary January 2016**

### **LABOUR FORCE COMMENTARY JANUARY 2016**

#### **NATIONAL ESTIMATES**

#### **TREND ESTIMATES**

Australia's trend estimate of employment increased by 19,800 persons in January 2016, with:

- the number of unemployed persons decreasing by 4,400;
- an unemployment rate of 5.8 per cent, a decrease of less than 0.1 percentage points;
- the participation rate remaining at 65.2 per cent; and
- the employment to population ratio increasing less than 0.1 percentage points to 61.4%.

The trend unemployment rate remained at 6.1 per cent from March 2015 to September 2015, before declining over subsequent months to its current level of 5.8 per cent. The trend employment to population ratio, which expresses the number of employed persons as a percentage of the civilian population aged 15 years and over, increased steadily from 60.8 per cent in May 2015 to 61.4 per cent in January 2016.

Over the past 12 months, trend employment increased by 302,500 (or 2.6%), which was above the average year-on-year growth over the last 20 years of 1.8%. Over the past 12 months trend unemployment decreased by 29,800 (or 3.9%), with the trend unemployment rate decreasing from 6.2 per cent to 5.8 per cent. The participation rate (up 0.5 percentage points) and employment to population ratio (up 0.7 percentage points) both increased over this period.

The trend employment increase of 19,800 persons represents a monthly growth rate of 0.17%, which remains slightly above the monthly average over the past 20 years of 0.15%. While trend employment growth has been above the 20 year average since December 2014, the rate of growth in January 2016 was below that seen across the second half of 2015.

The trend series smooth the more volatile seasonally adjusted estimates and provide the best measure of the underlying behaviour of the labour market.

## SEASONALLY ADJUSTED ESTIMATES

The seasonally adjusted unemployment rate for January 2016 was 6.0 per cent (up 0.2 percentage points) and the labour force participation rate was unchanged at 65.2 per cent.

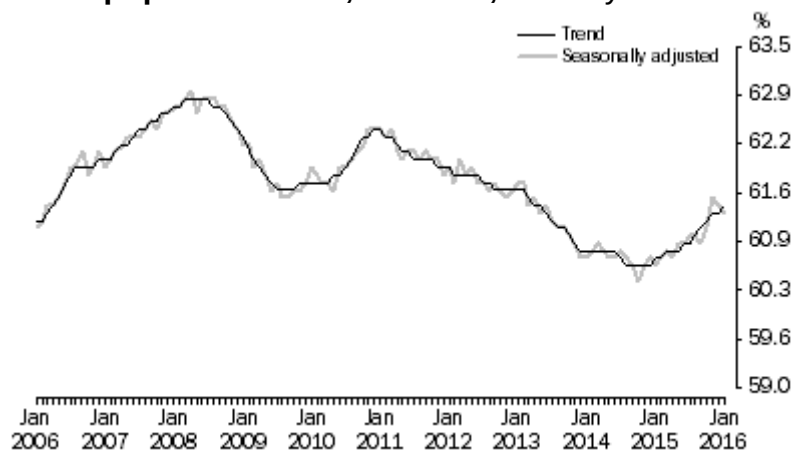
Seasonally adjusted full-time employment decreased by 40,600 persons to 8,185,800 while part-time employment increased by 32,700 to 3,708,700 persons in January 2016. The decrease in total seasonally adjusted employment of 7,900 persons to 11,894,500 resulted from:

- a decrease in female full-time employment, down 27,600 persons
- a decrease in male full-time employment, down 13,000 persons
- an increase in female part-time employment, up 10,600 persons
- an increase in male part-time employment, up 22,100 persons.

Seasonally adjusted monthly hours worked in all jobs increased 10.9 million hours (0.7%) in January 2016 to 1,656.0 million hours.

The seasonally adjusted employment to population ratio decreased 0.1 percentage points to 61.3% in December 2015.

**Employment to population ratio, Persons, January 2006 to January 2016**



## STATE ESTIMATES

Trend employment growth in January 2016 was strongest in absolute terms in New South Wales (up 7,900 persons), but strongest in relative terms in the Australian Capital Territory (up 0.3%). The largest annual growth rates in trend employment were in New South Wales (4.7%) and Queensland (3.1%).

In seasonally adjusted terms, the largest absolute decreases in employment in January 2016 were in New South Wales (down 13,400 persons) and Victoria (down 9,000 persons). The largest absolute increase in seasonally adjusted employment was in Queensland (up 9,600 persons).

The trend unemployment rates decreased slightly in all states and territories, except in Tasmania which increased slightly.

The largest increases in the seasonally adjusted unemployment rates were in Queensland (up 0.5 percentage points), New South Wales (up 0.4 percentage points) and Victoria (up 0.3 percentage points). The largest decrease was in Western Australia (down 0.4 percentage points), with decreases also seen in South Australia and Tasmania (both down 0.3 percentage points).

The trend participation rate decreased slightly in Western Australia, Tasmania and the Northern Territory, was relatively unchanged in New South Wales, Victoria and South Australia, and increased slightly in Queensland and the Australian Capital Territory.

In seasonally adjusted terms, the largest increase in the participation rate was in Queensland (up 0.5 percentage points). The largest decrease in the seasonally adjusted participation rate was in Western Australia (down 0.4 percentage points).

Seasonally adjusted estimates are not published for the territories and the ABS recommends using trend estimates to analyse the underlying behaviour of the series.

### Unemployment rate, States and Territories, December 2015 and January 2016

	Trend December %	January %	Seasonally Adjusted December %	January %
New South Wales	5.3	5.2	5.2	5.5
Victoria	6.0	6.1	6.0	6.3
Queensland	6.1	6.1	5.9	6.4
South Australia	7.1	6.9	7.1	6.8
Western Australia	6.2	6.2	6.3	5.9
Tasmania	6.6	6.6	6.8	6.5
Northern Territory	4.1	4.0	np	np
Australian Capital Territory	5.0	4.9	np	np
<b>Australia</b>	<b>5.9</b>	<b>5.8</b>	<b>5.8</b>	<b>6.0</b>

np not available for publication but included in totals where applicable, unless otherwise indicated

## Insights from the Original Data

### INSIGHTS FROM THE ORIGINAL DATA

#### SAMPLE COMPOSITION

The Labour Force Survey sample can be thought of as comprising eight sub-samples (or rotation groups), with each sub-sample remaining in the survey for eight months, and one

rotation group "rotating out" each month and being replaced by a new group "rotating in". This sample rotation is important in ensuring that seven-eighths of the sample are common from one month to the next, to ensure that changes in the estimates reflect real changes in the labour market, rather than the sample. In addition, the replacement sample is generally selected from the same geographic areas as the outgoing one, as part of a representative sampling approach.

To understand movements in the original estimates, it is important to consider the contributions from the three components of the sample:

- the matched common sample (survey respondents who responded in both December and January),
- the unmatched common sample (respondents in January but who did not respond in December, or vice versa), and
- the incoming rotation group (who replaced respondents who rotated out in December).

This issue of Labour Force, Australia (cat. no. 6202.0) includes an additional spreadsheet table titled *"Insights from the original data"*, which complements the analysis provided in this section. This spreadsheet table contains information regarding the contribution of each component of the sample to the original level estimates for the current and previous month, and by extension their contribution to movements in original estimates between months. Information shown in the spreadsheet table is the same as provided for employment estimates in the December 2015 issue of Labour Force, Australia (cat. no. 6202.0), and is now presented in a table format and for all labour force statuses (i.e. employed, unemployed and not in the labour force). The data in the spreadsheet table can be replicated by comparing the previous month weighted estimate to the current month weighted estimate, both of which are available in data cube GM1. This spreadsheet table will continue to be provided in the same format with each subsequent issue. For further information regarding the specific calculations contained in the table, refer to the December 2015 issue of Labour Force, Australia (cat. no. 6202.0).

The matched common sample made the largest contribution towards the movement in original terms from December 2015 to January 2016 for both employment and not in the labour force estimates, contributing over 70% of the movement in both cases. The contribution from the three sample components was more even for the unemployment estimates, with the matched common sample contributing over 40%, while the unmatched common sample and the change in rotation groups each contributed just under 30%.

In considering the three components of the sample, it is important to remember that the matched common sample describes the change observed for the same respondents between December and January, while the other two components reflect differences between the aggregate labour force status of different groups of people.

While the rotation groups are designed to be representative of the population, the outgoing and incoming rotation groups will almost always have somewhat different characteristics, as a result of the groups representing a sample of different households and people. The design of the survey, including the weighting and estimation processes, ensures that these differences are generally relatively minor and seeks to ensure that differences in characteristics of rotation groups do not affect the representativeness of the survey and its estimates.

In original terms the rotation group which was new to the sample in January 2016 (the incoming rotation group) displayed less tendency towards employment but a stronger tendency towards participation than the group it replaced (the outgoing rotation group in

December), with a higher participation rate (63.5% for the incoming group, compared to 62.9% for the outgoing group) and lower employment to population ratio (58.8% for the incoming group, compared to 59.7% for the outgoing group). A decreased employment to population ratio was observed across all survey rotation groups, with an average decrease of 1.6 percentage points seen for the seven common rotation groups. The incoming rotation group in January 2016 further displayed a stronger tendency towards unemployment than the group it replaced, with the unemployment rate for the incoming group 7.3%, compared to a rate of 5.1% for the outgoing group and the average of all rotation groups of 6.5%. An increased unemployment rate was observed across all survey rotation groups, with an average increase of 0.8 percentage points seen for the seven common rotation groups.

In looking ahead to the February 2016 estimates, the outgoing rotation group in January 2016, which will be replaced by a new incoming rotation group in February 2016, had a similar employment to population ratio (60.1% in January) to other rotation groups. In original terms if the incoming group in February 2016 has an employment to population ratio that is equally similar to the average (60.5% for all rotation groups in January 2016), this rotation group change is unlikely to contribute significantly to employment growth. This will be summarised in the February 2016 issue. The outgoing rotation group in January 2016 also had a relatively high unemployment rate (7.2% in January 2016) compared to the other rotation groups (6.5% for all rotation groups in January 2016). If the incoming group in February 2016 has an unemployment rate that is more similar to the average, or is relatively lower than the average, there may be some degree of contribution to the unemployment rate from this rotation group change.

As the gross flows and rotation group data are presented in original terms they are not directly comparable to the seasonally adjusted and trend data discussed elsewhere in the commentary.

## **What's New in the Labour Force**

### **WHAT'S NEW IN THE LABOUR FORCE**

#### **REGULAR UPDATE OF THE SEASONAL ADJUSTMENT PROCESS**

Parameters used in the seasonal adjustment process to account for the following variables:

- the placement of public holidays;
- the placement of school holidays; and
- the start date for data collection in January

were updated in this issue of Labour Force, Australia.

The parameters are reviewed at this time each year to ensure that the correct timing of the holidays and start date for collection are reflected in seasonally adjusted and trend data. These parameters are updated separately to the annual seasonal reanalysis because of their importance for January data, however they will also be considered as part of the broader annual seasonal reanalysis of each series scheduled to occur with the February data. The update to the parameters did not result in significant revisions to the seasonally adjusted and trend series.

## **THE FUTURE DISSEMINATION OF DETAILED LABOUR FORCE DATA**

The ABS has released detailed Labour Force Survey data via SuperTable data cubes for a long period of time. This software is not currently supported by the software provider, Space Time Research, and users have expressed interest in plans regarding the future of these data cubes. The ABS will engage with key users of Labour Force data in 2016 on the most appropriate future dissemination product options and transitional arrangements, and provide periodic updates from this process.

## **NEW SPREADSHEET "INSIGHTS FROM THE ORIGINAL DATA" NOW AVAILABLE**

As highlighted in the "Insights from the original data" section of this publication, this issue of Labour Force, Australia (cat. no. 6202.0) includes an additional spreadsheet table titled *"Insights from the original data"*, which complements the analysis provided in the main commentary. This spreadsheet table contains information regarding the contribution of each component of the sample to original level estimates for the current and previous month, and by extension their contribution to movements in original estimates between months. Information shown in the spreadsheet table is the same as previously provided for employment estimates in the December 2015 issue of Labour Force, Australia (cat. no. 6202.0), and is now presented in a table format and for all labour force statuses (i.e. employed, unemployed and not in the labour force). The data in the spreadsheet table can be replicated using the previous month weighted estimate and comparing it to the current month weighted estimate, both of which are available in data cube GM1. This spreadsheet table will continue to be provided in the same format with each additional issue. For further information regarding the specific calculations contained in the table, refer to the December 2015 issue of Labour Force, Australia (cat. no. 6202.0).

## **PUBLICATION OF QUARTERLY REBENCHMARKED DATA**

From the August 2015 issue the ABS commenced quarterly updating (rebenchmarking) Labour Force population benchmarks with the latest available Estimated Resident Population series. To enable users to assess the impact of the rebenchmarking, the ABS now publishes rebenchmarking Labour Force estimates one week prior to each quarterly (February, May, August and November) release of Labour Force, Australia (cat. no. 6202.0). The rebenchmarking estimates include time series up to the month before the quarterly month.

The rebenchmarking estimates are published under Labour Force, Australia - Rebenchmarking Estimates (cat. no. 6202.0.55.003) and include all spreadsheets and one data cube currently released as part of Labour Force, Australia. The February 2016 issue of the rebenchmarking estimates will be released on 10 March 2016. As the purpose of this release is to enable the effect of revised population benchmarks to be analysed, a media release is not usually provided. Rebenchmarking estimates relating to data published in both Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001) and Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003) will continue to be published along with the current month estimates one week after each quarterly release of Labour Force, Australia.

When each quarterly release of Labour Force, Australia is published seasonally adjusted and trend rebenchmarking estimates will be subject to further revision as a result of



concurrent seasonal adjustment utilising the additional observation.

## Article Archive

This section provides an archive of articles and analysis published in Labour Force, Australia (cat. no. 6202.0), promoting the effective use of labour force statistics. Articles are sorted by publication date.

Articles on labour related topics are also available in Australian Labour Market Statistics (cat. no. 6105.0) and Australian Social Trends (cat. no. 4102.0).

### Labour Force Survey Archive

What's New in the Labour Force	December 2015
Measures of Underemployment and Underutilisation	November 2015
Update on Recommendation 7 from the Independent Technical Review	November 2015
What's New in the Labour Force	November 2015
What's New in the Labour Force	October 2015
What's New in the Labour Force	September 2015
Online Collection in the Labour Force Survey	August 2015
What's New in the Labour Force	July 2015
Progress with recommendations from the Independent Technical Review	July 2015
Assessing Volatility in the Labour Force Series	June 2015
What's New in the Labour Force	June 2015
Update on Recommendations 10 and 11 from the Independent Technical Review	June 2015
What's New in the Labour Force	May 2015
Update on Recommendation 7 from the Independent Technical Review	May 2015
What's New in the Labour Force	April 2015
What's New in the Labour Force	March 2015
Annual Seasonal Reanalysis	March 2015
Update on Recommendations from the Independent Technical Review	March 2015
What's new in the Labour Force	February 2015
Online Collection in the Labour Force Survey	February 2015
Rebenchmarking Labour Force Estimates	February 2015
What's new in the Labour force	January 2015
What's new in the Labour force	December 2014
Independent Technical Review into the Labour Force Survey and ABS Response	November 2014
What's new in the Labour force	November 2014
Removing the effect of Supplementary Surveys from seasonally adjusted estimates	October 2014
Changes in this and upcoming labour force issues	September 2014
Changes in this and upcoming labour force issues	August 2014
What's new in the Labour force	July 2014
What's new in the Labour force	June 2014
What's new in the Labour force	May 2014
What's new in the Labour force	February 2014
Rebenchmarking Labour Force Estimates to the 2011 Census of	January 2014

Population and Housing	
What's new in the Labour force	December 2013
Understanding the Australian Labour Force using ABS statistics	December 2013
What's new in the Labour Force	November 2013
Understanding full-time/part-time status in the Labour Force Survey	September 2013
What's new in the Labour Force	September 2013
Fact sheet did you know - Underemployment	June 2013
What's new in the Labour Force	June 2013
New Labour Force Sample Design	May 2013
Annual Seasonal Reanalysis	May 2013
What's new in Labour Force	May 2013
Transition to online collection of the Labour Force Survey	April 2013
What's new in Labour Force	April 2013
Estimating Jobs in the Australian Labour Market	February 2013
Forthcoming improvements to the content of the Labour Force and Labour Supplementary Surveys	January 2013
What's new in Labour Force	January 2013
Understanding the Australian Labour Force using ABS statistics	January 2013
Rebenchmarking of Labour Force Series	November 2012
Upcoming changes to the Labour Force Survey	July 2012
Labour Household Surveys content review and the Labour Force Survey	June 2012
Employment and mining in Queensland, New South Wales and Western Australia	May 2012
ABS Response to recent concerns expressed about employment estimates	April 2012
Population Benchmarks and Labour Force Survey	April 2012
Annual Seasonal Reanalysis	March 2012
Exploring Labour Force Data on joblessness	February 2012
Employment level estimates versus employment to population explained	January 2012
Understanding the Australian Labour Force using ABS statistics	November 2011
Historical Revisions	February 2011
Impact of the floods on the Labour Force Survey	January 2011

## About this Release

Summary results of the monthly Labour Force Survey containing estimates of employed and unemployed persons classified by sex, full-time/part-time status, states and territories and some age groups; and persons not in the labour force.

## Explanatory Notes

### Explanatory Notes

# EXPLANATORY NOTES

## INTRODUCTION

**1** This publication contains estimates of the civilian labour force derived from the Labour Force Survey component of the Monthly Population Survey. The full time series for estimates from this publication are also available electronically. More detailed estimates are released one week after this publication in various electronic formats - see Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001) and Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003).

## CONCEPTS, SOURCES AND METHODS

**2** The conceptual framework used in Australia's Labour Force Survey aligns closely with the standards and guidelines set out in Resolutions of International Conferences of Labour Statisticians. Descriptions of the underlying concepts and structure of Australia's labour force statistics, and the sources and methods used in compiling the estimates, are presented in Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001) which is available on the ABS website <<https://www.abs.gov.au>>.

## LABOUR FORCE SURVEY

**3** The Labour Force Survey is based on a multi-stage area sample of private dwellings (currently approximately 26,000 houses, flats, etc.) and a list sample of non-private dwellings (hotels, motels, etc.), and covers approximately 0.32% of the civilian population of Australia aged 15 years and over.

**4** Information is obtained from the occupants of selected dwellings by specially trained interviewers using computer-assisted interviewing, or self-completion online.

**5** Households selected for the Labour Force Survey are interviewed each month for eight months, with one-eighth of the sample being replaced each month. The first interview is generally conducted face-to-face. Subsequent interviews are conducted by telephone (if acceptable to the respondent).

**6** From December 2012 to April 2013, the ABS conducted a trial of online electronic data collection. Respondents in one rotation group (i.e. one-eighth of the survey sample) were offered the option of self completing their labour force survey questionnaire online instead of via a face-to-face or telephone interview. From May 2013, the ABS expanded the offer of online electronic collection to 50% of each new incoming rotation group. For more information see the article in the April 2013 issue of this publication. From September 2013, online electronic collection has been offered to 100% of private dwellings in each incoming rotation group. From April 2014, 100% of private dwellings are being offered online electronic collection.

**7** The interviews are generally conducted during the two weeks beginning on the Sunday between the 5th and 11th of each month. The information obtained relates to the week before the interview (i.e. the reference week). Each year, to deal with operational difficulties involved with collecting and processing the Labour Force Survey around the Christmas and New Year holiday period, interviews for December start four weeks after November interviews start (i.e. between the 3rd and 9th December), and January interviews start five

weeks after December interviews start. As a result, January interviewing may commence as early as the 7th or as late as the 13th, depending on the year. Occasionally, circumstances that present significant operational difficulties for survey collection can result in a change to the normal pattern for the start of interviewing.

**8** Estimates from the Labour Force Survey are usually published first in this publication 39 days after the commencement of interviews for that month, with the exception of estimates for each December which are usually published 46 days after the commencement of interviews.

## **SCOPE OF SURVEY**

**9** The Labour Force Survey includes all persons aged 15 years and over except members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependants) stationed in Australia.

## **COVERAGE**

**10** In the Labour Force Survey, coverage rules are applied which aim to ensure that each person is associated with only one dwelling, and hence has only one chance of selection. The coverage rules are necessarily a balance between theoretical and operational considerations. Nevertheless, the chance of a person being enumerated at two separate dwellings in the survey is considered to be negligible.

## **POPULATION BENCHMARKS**

**11** The Labour Force Survey estimates are calculated in such a way as to add to independent estimates of the civilian population aged 15 years and over (population benchmarks). These population benchmarks are based on the most recently released estimates of Final, Revised and Preliminary quarterly Estimated Resident Population (ERP). For information on the methodology used to produce the ERP see Australian Demographic Statistics (cat. no. 3101.0). Since the most recently released ERP estimates lag the current time period for Labour Force estimates by nine months, the Labour Force population benchmarks are created by projecting forward three quarters past the most recently released quarterly ERP estimates. The projection is based on the historical pattern of each population component - births, deaths, interstate migration and net overseas migration (NOM). Projected estimates of NOM are supplemented with other data sources to better forecast population changes in the short-term. The main data source is the forecasts published by the Department of Immigration & Border Protection in the publication The Outlook for Net Overseas Migration.

**12** Commencing in March 2010, the ERP series has been revised twice-yearly, in the March and September quarter issues of Australian Demographic Statistics (cat. no. 3101.0). This biannual revision cycle incorporates more up to date information available for NOM. This updated information is included in the population benchmarks used in creating the Labour Force estimates when they are rebenchmarked.

**13** Every five years, the ERP series are revised to incorporate additional information available from the latest Census of Population and Housing (Census). Labour Force Survey population benchmarks, and the estimates, are revised following this five-yearly revision in

the ERP. The process of incorporating the revised population benchmarks is referred to as 'rebasings'. From the January 2014 issue of this publication, labour force estimates have been compiled using population benchmarks based on the results of the 2011 Census. Revisions were made to historical Labour Force estimates from June 2006 to December 2013. In addition, estimates from July 1991 to May 2006 were revised to reflect population benchmarks based on ERP revised following the 2011 Census. The next rebasing based on the Census will be following the release of the 2016 Census-based ERP estimates, which will incorporate revisions back five years. For more information on revised ERP estimates, refer to the June 2012 issue of Australian Demographic Statistics (cat. no. 3101.0) released in December 2012.

**14** In between Censuses, the ABS revises the Labour Force population benchmarks using the latest ERP according to the paragraphs above. These were introduced in the July 2010, November 2012 and April 2013 issues. The revisions planned for the October 2013, April 2014 and November 2014 issues were not implemented (see What's New in the Labour Force in the September 2013 issue and Changes in this Issue in the October 2014 issue of this publication). From the February 2015 issue, rebenchmarking will be undertaken quarterly in the February, May, August and November issues apart from May 2015. For more information, refer to the article Rebenchmarking of Labour Force Series in the February 2015 issue of this publication.

## **ESTIMATION METHOD**

**15** The estimation method used in the Labour Force Survey is Composite Estimation, which was introduced in May 2007. In January 2014 composite estimation was applied to all estimates from July 1991 as part of the 2011 Census rebenchmarking. Composite Estimation combines data collected in the previous six months with current month's data to produce the current month's estimates, thereby exploiting the high correlation between overlapping samples across months in the Labour Force Survey. The Composite Estimator combines the previous and current months' data by applying different factors according to length of time in the survey. After these factors are applied, the seven months of data are weighted to align with current month population benchmarks. For details see Information Paper: Forthcoming Changes to Labour Force Statistics, 2007 (cat. no. 6292.0).

## **COMPARABILITY OF SERIES**

**16** From April 1986, the definition of employed persons was changed to include persons who worked without pay between 1 and 14 hours per week in a family business or on a farm (i.e. contributing family workers). For further information, see paragraphs 22 and 23 of the Explanatory Notes in the February 2003 issue of Labour Force, Australia (cat. no. 6203.0).

**17** The ABS introduced telephone interviewing into the Labour Force Survey in August 1996. Implementation was phased in for each new sample group from August 1996 to February 1997. During the period of implementation, the new method produced different estimates than would have been obtained under the old methodology. The effect dissipated over the final months of implementation and was no longer discernible from February 1997. The estimates for February 1997 and onwards are directly comparable to estimates for periods prior to August 1996. For further details, see the feature article in the June 1997 issue of Labour Force, Australia (cat. no. 6203.0).

**18** From April 2001 the Labour Force Survey was conducted using a redesigned questionnaire containing additional data items and some minor definitional changes. The definition of unemployed persons was changed to include all persons who were waiting to

start work and were available to start in the reference week. This change was introduced in February 2004, when historical unit record data were revised from April 2001 to January 2004. This revision created a small trend break at April 2001 in unemployed persons and unemployment rate series. For further details, see Information Paper: Forthcoming Changes to Labour Force Statistics, 2003 (cat. no. 6292.0), released in December 2003. From July 2014 the Labour Force Survey questionnaire was further redesigned and definitional changes made to active job search steps and duration of job search. For further details, see the Glossary and Information Paper: Forthcoming Changes to Labour Force Statistics, June 2014 (cat. no. 6292.0), released in October 2014.

**19** Core labour force series were revised in April 2001 for the period April 1986 to March 2001 for the remaining definitional changes introduced with the redesigned questionnaire, to reduce the impact of the changes on labour force series. For further details, see Information Paper: Implementing the Redesigned Labour Force Survey Questionnaire (cat. no. 6295.0) and the 2004 issue of Information Paper: Questionnaires Used in the Labour Force Survey (cat. no. 6232.0).

**20** In May 2007, an improved method of estimation, known as composite estimation, was introduced into the Labour Force Survey. In introducing this change, the ABS revised unit record data from April 2001 to April 2007 based on the new estimation method. No change was identified in the trend breaks in the unemployed persons and unemployment rate series which arose with the introduction of a redesigned survey form in April 2001 (as noted above in paragraph 18). In January 2014 composite estimation was applied to all estimates from July 1991 as part of the 2011 Census rebenchmarking. For further details, see Information Paper: Forthcoming Changes to Labour Force Statistics, 2007 (cat. no. 6292.0).

**21** As one of a range of ABS savings initiatives for the 2008-09 financial year, there was a 24% reduction in the LFS sample size for the period July 2008 to August 2009, relative to the June 2008 sample size. The sample reduction was reversed from September 2009 to December 2009, with December 2009 estimates being the first produced under the fully reinstated sample.

## **LABOUR FORCE SURVEY SAMPLE**

**22** The current Labour Force Survey sample has been selected using information collected in the 2011 Census of Population and Housing.

**23** The sample was introduced over four months - May 2013 to August 2013. Two rotation groups (i.e. one-quarter of the survey sample) were introduced each month. During the sample phase-in, the increased sample rotation had an impact on the quality of estimates. Movement standard errors increased by approximately 10%, representing, for example, an increase on the standard error on the Australian monthly change in employment for May 2013 from 27,000 to approximately 29,700.

**24** Due to the use of composite estimation, there was a marginal impact on the quality of level estimates. Gross Flows analysis were impacted by the sample phase-in with between 60% to 70% of the sample available for matching between the current and previous months instead of the usual 80%. After full transition to the new sample, the quality of level and movement estimates is at the level designed for under the 2011 sample design and are of similar quality as the 2006 sample design. For further details, see Information Paper: Labour Force Survey Sample Design (cat. no. 6269.0) released on 30 May 2013.

## **RELIABILITY OF ESTIMATES**

**25** Two types of error are possible in an estimate based on a sample survey: sampling error and non-sampling error.

**26** Sampling error occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all dwellings in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors. Standard errors of key estimates for the latest month and of movements since the previous month of these estimates are shown in the standard errors section of this publication. Standard errors for other estimates and other movements may be calculated by using the spreadsheet contained in Labour Force Survey Standard Errors, Data Cube (cat. no. 6298.0.55.001) which is available free of charge on the ABS website <<https://www.abs.gov.au>>.

**27** Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The Labour Force Survey receives a high level of co-operation from individuals in selected dwellings, with the average response rate over the last year being 94%. See Glossary for definition of response rate.

## **SEASONAL ADJUSTMENT AND TREND ESTIMATION**

**28** Any original time series can be thought of as a combination of three broad and distinctly different types of behaviour, each representing the impact of certain types of real world events on the information being collected: systematic calendar related events, short-term irregular fluctuations and long-term cyclical behaviour. A multiplicative decomposition model is applied in the seasonal adjustment of Labour Force Time Series, where the original time series (O) is considered as the product of the underlying trend (T), a systematic calendar related or seasonal component (S) and an irregular component (I). This can be expressed as  $O = T \times S \times I$ . The contributions of each of these behaviours varies from series to series, as well as throughout time for a given series, depending on the nature of the interactions of real world events and the data of interest.

**29** Seasonal adjustment is a statistical technique that attempts to measure and remove the effects of systematic calendar related patterns including seasonal variation to reveal how a series changes from period to period. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular month. This means that month-to-month movements of the seasonally adjusted estimates may not be reliable indicators of trend behaviour.

**30** The Labour Force Survey uses the concurrent seasonal adjustment method to derive seasonal factors. Concurrent seasonal adjustment uses data up to the current month to estimate seasonal factors for the current and all previous months. This process can result in revisions each month to estimates for earlier periods. However, in most instances, the only noticeable revisions will be to the seasonally adjusted estimates for the previous month and one year prior to the current month. From the March 2015 issue of this publication, the effects of supplementary surveys are removed prior to the estimation of seasonal factors for key Labour Force series from February 1978 onwards. While this methodology has addressed short term volatility in the seasonally adjusted series arising from changes to the timing and content of the supplementary survey program, in general prior corrections and

resulting changed seasonal patterns can be identified and measured to a more reliable degree of certainty after three successive observations (in this case after three years). For further details refer to the October and December 2014 issues of this publication.

**31** The revision properties of the seasonally adjusted and trend estimates can be improved by the use of Autoregressive Integrated Moving Average (ARIMA) modelling. ARIMA modelling relies on the characteristics of the series being analysed to project future period data. The projected values are temporary, intermediate values, that are only used internally to improve the estimation of the seasonal factors. The projected data do not affect the original estimates and are discarded at the end of the seasonal adjustment process. The Labour Force Survey uses an ARIMA model for the majority of the individual time series. The ARIMA model is assessed as part of the annual reanalysis. For further details, see the feature article in the October 2004 issue of Australian Economic Indicators (cat. no. 1350.0).

**32** Seasonal adjustment is able to remove the effect of events which occur at the same time in the survey every year. However, there are some events, like holidays, which are not always at the same time in the survey cycle or which are not at the same time across Australia. The effects of these types of events on Labour Force Survey estimates cannot in all cases be removed, because the pattern of their effects cannot be determined. However, two events for which adjustment is made in the seasonally adjusted series are the January interview start date and the timing of Easter. For further details, see Information Paper: Forthcoming Changes to Labour Force Statistics (cat. no. 6292.0) released in December 2003.

**33** While seasonal factors for the complete time series are estimated each month, they will continue to be reviewed annually at a more detailed level to take into account each additional year's original data. This annual review will not normally result in significant changes to published estimates. The review is usually conducted early each year with the results released in this publication shortly thereafter.

**34** The smoothing of seasonally adjusted series to produce 'trend' series reduces the impact of the irregular component of the seasonally adjusted series. These trend estimates are derived by applying a 13-term Henderson-weighted moving average to all months except the last six. The last six monthly trend estimates are obtained by applying surrogates of the Henderson average to the seasonally adjusted series. Trend estimates are used to analyse the underlying behaviour of a series over time.

**35** While this smoothing technique enables estimates to be produced for the latest month, it does result in revisions in addition to those caused by the revision of seasonally adjusted estimates. Generally, revisions due to the use of surrogates of the Henderson average become smaller, and after three months have a negligible impact on the series.

**36** Trend estimates are published for the Northern Territory in table 10 and for the Australian Capital Territory in table 11. Unadjusted series for the two Territories have shown, historically, a high degree of variability, which can lead to considerable revisions to the seasonally adjusted estimates each month when seasonal factors are estimated. For this reason, seasonally adjusted estimates are not currently published for the two Territories. In addition, caution should be exercised in the interpretation of trend estimates for the two Territories, particularly for the three most recent months, where revisions may be relatively large.

**37** For further information, see A Guide to Interpreting Time Series - Monitoring Trends (cat. no. 1349.0) or contact the Assistant Director, Time Series Analysis on (02) 6252 6345 or email [time.series.analysis@abs.gov.au](mailto:time.series.analysis@abs.gov.au).



## RELATED PUBLICATIONS

**38** Users may also wish to refer to the following publications:

- Labour Force Survey Standard Products and Data Item Guide (cat.no. 6103.0). This publication is a reference guide for users of Labour Force Survey data standard products.
- Australian Labour Market Statistics (cat. no. 6105.0). This publication presents key indicators of the labour market, articles on a range of labour market issues, and information about the latest developments in the labour statistics program. For further information about this publication, please contact Labour Market Statistics on (02) 6252 7206.

**39** ABS information about the labour market can be found on the Topics @ a Glance page on the ABS website <<https://www.abs.gov.au>>.

**40** Information about current publications and other products released by the ABS is available from the statistics page on the ABS website. The ABS also issues a daily release advice on the website, Upcoming Product Releases, which details products to be released in the week ahead.

## DATA AVAILABLE ON REQUEST

**41** As well as the statistics included in this and related publications, the ABS may have other relevant data available. Inquiries should be made to the Labour Force contact officer on (02) 6252 6525, email [labourforce@abs.gov.au](mailto:labourforce@abs.gov.au) or to any ABS office. The ABS Privacy Policy outlines how the ABS will handle any personal information that you provide to us.

## EFFECTS OF ROUNDING

**42** Estimates have been rounded and discrepancies may occur between sums of the component items and totals. Estimates of movement shown in this publication are obtained by taking the difference of unrounded estimates. The movement estimate is then rounded. Where a discrepancy occurs between the reported movement and the difference of the rounded estimates, the reported movement will be more accurate.

## SYMBOLS AND ABBREVIATIONS

### 43 SYMBOLS AND ABBREVIATIONS

Symbol	Definition
'000	thousands
%	percentage
ABS	Australian Bureau of Statistics
CAI	computer assisted interviewing
cat. no.	catalogue number
Civ. pop.	civilian population
ERP	estimated resident population
Emp. to pop. ratio	employment to population ratio
f/t	full time
LFS	Labour Force Survey

NILF	not in the Labour Force
Part. rate	participation rate
p/t	part time
pts	percentage points
Seas adj.	seasonally adjusted
TAFE	Technical and Further Education
Unemp. rate	unemployment rate

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## Glossary

### GLOSSARY

#### Actively looked for work

Actively looked for work includes:

- written, telephoned or applied to an employer for work;
- had an interview with an employer for work;
- answered an advertisement for a job;
- checked or registered with a Job Services Australia provider or any other employment agency;
- taken steps to purchase or start your own business;
- advertised or tendered for work; and
- contacted friends or relatives in order to obtain work.

#### Actual hours of work

Actual hours of work refers to a specified reference period (e.g. a week) and includes:

- hours actually worked during normal periods of work;
- time spent in addition to hours worked during normal periods of work (including overtime);
- time spent at the place of work on activities such as the preparation of the workplace, repairs and maintenance, preparation and cleaning of tools, and the preparation of receipts, time sheets and reports;
- time spent at the place of work waiting or standing by due to machinery or process breakdown, accident, lack of supplies, power or internet access, etc;
- time corresponding to short rest periods (resting time) including tea and coffee breaks or prayer breaks;
- travel time connected to work (excluding commuting time); and
- training and skills enhancement related to the job or employer.

Excluded are:

- hours paid for but not worked, such as paid annual leave, public holidays or paid sick leave;
- meal breaks (e.g. lunch breaks);
- paid and unpaid time 'on call';
- time spent on travel to and from work when no productive activity for the job is

- performed (e.g. commuting time); and
- time off during working hours to attend outside educational activities, even if it is authorised, e.g. those not connected to the job or employer.

For multiple job holders the LFS collects a separate measure of actual hours worked in main job and in all jobs.

### **Attending full time education**

Persons aged 15-24 years enrolled at secondary or high school or enrolled as a full time student at a Technical and Further Education (TAFE) college, university, or other educational institution in the reference week.

### **Attending school**

Persons aged 15-19 years enrolled at secondary or high school in the reference week.

### **Attending tertiary educational institution full time**

Persons aged 15-24 years enrolled full time at a TAFE college, university, or other educational institution in the reference week, except those persons aged 15-19 years who were still attending school.

### **Civilian population aged 15 years and over**

All usual residents of Australia aged 15 years and over except members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependants) stationed in Australia.

### **Composite Estimation**

The estimation methodology used in the Labour Force Survey. Composite Estimation uses sample responses from nearby months as well as from the reference month to derive estimates for the reference month. This approach achieves gains in efficiency by exploiting the high similarity between the responses provided by the same respondent in previous months. For details see *Information Paper: Forthcoming Changes to Labour Force Statistics, 2007* (cat. no. 6292.0).

### **Employed**

All persons aged 15 years and over who met one of the following criteria during the reference week:

- Worked for one hour or more for pay, profit, commission or payment in kind, in a job or business or on a farm (employees and owner managers of incorporated or unincorporated enterprises).
- Worked for one hour or more without pay in a family business or on a farm (contributing family workers).
- Were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week; or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of

- the reference week; or
- away from work as a standard work or shift arrangement; or
- on strike or locked out; or
- on workers' compensation and expected to return to their job.
- Were owner managers who had a job, business or farm, but were not at work.

### **Employed full-time**

Includes employed persons who usually worked 35 hours or more a week (in all jobs) and those who, although usually working less than 35 hours a week, worked 35 hours or more during the reference week.

### **Employed part-time**

Includes employed persons who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work in the reference week.

### **Employment to population ratio**

For any group, the number of employed persons expressed as a percentage of the civilian population in the same group.

### **Estimated resident population (ERP)**

Estimated resident population (ERP), is Australia's official measure of the population of Australia and is based on the concept of usual residence. It refers to all people, regardless of nationality, citizenship or legal status, who usually live in Australia, with the exception of foreign diplomatic personnel and their families. It includes usual residents who are overseas for fewer than 12 months. It excludes overseas visitors who are in Australia for fewer than 12 months. Refer to Australian Demographic Statistics (cat. no. 3101.0).

### **Flow estimates**

Flow estimates are a measure of activity over a given period. For example, monthly hours worked in all jobs is a measure of the total number of hours worked in a calendar month.

### **Gross flows**

The matching of respondents who report in consecutive months enables analysis of the transition of individuals between the different labour force status classifications, referred to as the matched sample. The transition counts between the different labour force status classifications from one point in time to the next are commonly referred to as gross flows.

The figures presented in gross flows are presented in original terms only and do not align with published labour force estimates. The gross flows figures are derived from the matched sample between consecutive months, which after taking account of the sample rotation and varying non-response in each month is approximately 80 percent of the sample.

Caution should be exercised when analysing these gross flows data due to:

- the figures presented sum to approximately 80 percent of the population values as the gross flows data are based on the matched sample only;
- there is no adjustment applied to account for changes due to seasonal patterns (referred to commonly as seasonal adjustment); and

- the estimates of relative sizes of each transition class are subject to bias due to the matched sample being a non-representative sample.

## **Labour force**

For any group, persons who were employed or unemployed, as defined.

## **Labour force status**

A classification of the civilian population aged 15 years and over into employed, unemployed or not in the labour force, as defined. The definitions conform closely to the international standard definitions adopted by the International Conferences of Labour Statisticians.

## **Long-term unemployed**

The number of persons unemployed for 52 weeks or over.

## **Long-term unemployment ratio**

The number of long-term unemployed persons, expressed as a percentage of the total unemployed population.

## **Market sector**

The market sector is an industry grouping comprising the following industries: Agriculture, forestry and fishing; Mining; Manufacturing; Electricity, gas, water and waste services; Construction; Wholesale trade; Retail trade; Accommodation and food services; Transport, postal and warehousing; Information media and telecommunications; Finance and insurance services; Rental, hiring and real estate services; Professional, scientific and technical services; Administrative and support services; Arts and recreation services; and Other services. Refer to Australian National Accounts: Concepts, Sources and Methods (cat. no. 5216.0).

## **Non-market Sector**

The non-market sector is an industry grouping comprising the following industries: Education and training; Public administration & safety; and Health care and social assistance. Refer to Australian National Accounts: Concepts, Sources and Methods (cat. no. 5216.0).

## **Monthly hours worked in all jobs**

Monthly hours worked in all jobs measures the total number of actual hours worked by employed persons in a calendar month. It differs from the actual hours worked estimates (and the usual hours worked estimates) since these refer only to the hours worked in the reference week.

The methodology used to produce monthly hours worked in all jobs means that these are synthetic estimates. Seasonally adjusted and trend estimates of monthly hours worked in all jobs are available for the period July 1978 onwards.

Further information on the methodology used to produce the monthly hours worked in all jobs estimates is available on the ABS website in *Information Paper: Expansion of Hours Worked Estimates from the Labour Force Survey* (cat. no. 6290.0.55.001).

Actual and usual hours worked cannot be aggregated across time to produce either quarterly or annual estimates as they relate to only a single week in the month. In contrast, monthly hours worked in all jobs estimates are a true monthly measure, and may be aggregated across time to produce both quarterly and annual estimates.

### **Not in labour force**

Persons who were not in the categories employed or unemployed, as defined. They include people who undertook unpaid household duties or other voluntary work only, were retired, voluntarily inactive and those permanently unable to work.

### **Participation rate**

For any group, the labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

### **Response rate**

The number of fully responding dwellings expressed as a percentage of the total number of dwellings excluding sample loss. Examples of sample loss include: dwellings where all persons are out of scope and/or coverage; vacant dwellings; dwellings under construction; dwellings converted to non-dwellings; derelict dwellings; and demolished dwellings.

### **Seasonally adjusted series**

A time series of estimates with the estimated effects of normal seasonal variation removed. See Explanatory Notes for more detail.

### **Stock estimates**

Stock estimates are a measure of certain attributes at a point in time and can be thought of as stocktakes. For example, the total number of employed persons is an account of the number of people who were considered employed in the Labour Force Survey reference week.

### **Trend series**

A smoothed seasonally adjusted series of estimates. See Explanatory Notes for more detail.

### **Underemployment rate (proportion of labour force)**

The number of underemployed workers expressed as a percentage of the labour force.

### **Underemployment ratio (proportion of employed)**

The number of underemployed workers expressed as a percentage of total employed persons.

### **Underemployed workers**

Employed persons aged 15 years and over who want, and are available for, more hours of work than they currently have. They comprise:

- persons employed part time who want to work more hours and are available to start

work with more hours, either in the reference week or in the four weeks subsequent to the survey; or

- persons employed full time who worked part time hours in the reference week for economic reasons (such as being stood down or insufficient work being available). It is assumed that these people wanted to work full time in the reference week and would have been available to do so.

### **Underutilisation rate**

The sum of the number of persons unemployed and the number of persons in underemployment, expressed as a proportion of the labour force.

### **Unemployed**

Persons aged 15 years and over who were not employed during the reference week, and:

- had actively looked for full time or part time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

### **Unemployed looked for full time work**

Unemployed persons who:

- actively looked for full time work; or
- were waiting to start a new full time job.

### **Unemployed looked for only part time work**

Unemployed persons who:

- actively looked for part time work only; or
- were waiting to start a new part time job.

### **Unemployment rate**

For any group, the number of unemployed persons expressed as a percentage of the labour force in the same group.

### **Usual hours of work**

Usual hours of work refers to a typical period rather than the hours worked in a specified reference period. The concept of usual hours applies both to persons at work and to persons temporarily absent from work, and is defined as the hours worked during a typical week or day. Actual hours worked (for a specific reference period) may differ from usual hours worked due to illness, vacation, strike, overtime work, a change of job, or similar reasons.

# What If

## WHAT IF...? REVISIONS TO TREND ESTIMATES

### EFFECT OF NEW SEASONALLY ADJUSTED ESTIMATES ON TREND ESTIMATES

#### TREND REVISIONS

Each time new seasonally adjusted estimates become available, trend estimates are revised. This revision is a combined result of the concurrent seasonal adjustment process and the application of surrogates of the Henderson average to the seasonally adjusted series (see paragraphs 28 to 37 of the Explanatory Notes).

The examples in the tables below show two illustrative scenarios and the consequent revisions to previous trend estimates of employment and the unemployment rate. The revisions in the scenarios are due to the use of surrogates of the Henderson average, as the impact of revision of seasonally adjusted estimates can not be estimated in advance.

**1** The February seasonally adjusted estimate is **higher** than the January estimate by:

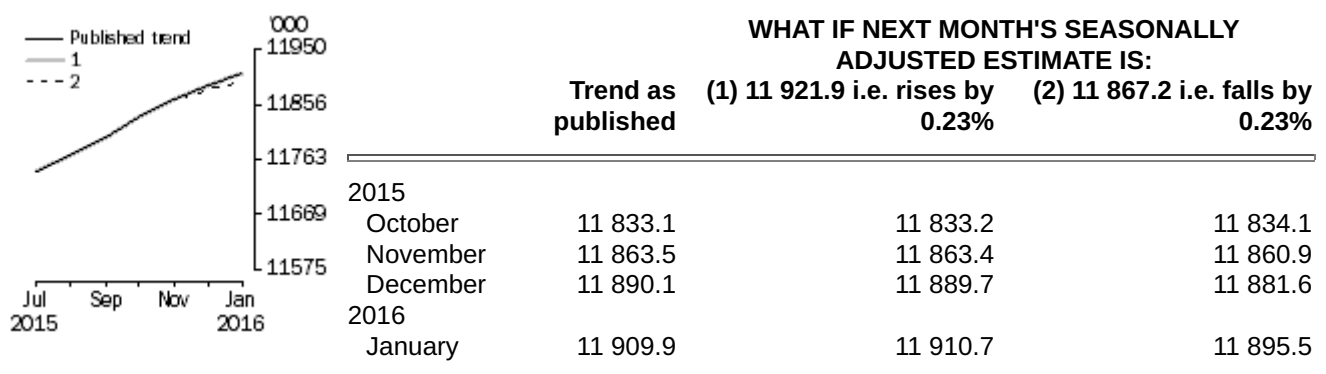
0.23% for employment  
2.20% for the unemployment rate

**2** The February seasonally adjusted estimate is **lower** than the January estimate by:

0.23% for employment  
2.20% for the unemployment rate

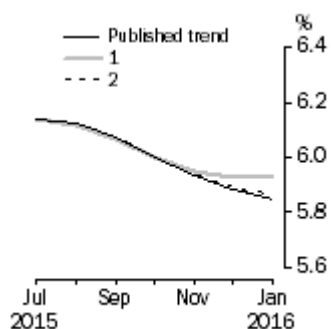
The percentage changes of 0.23% and 2.20% represent the average absolute monthly percentage changes in employment and the unemployment rate respectively. Estimates in the graphs have been calculated using unrounded estimates, and may be different from, but more accurate than, rounded estimates depicted in the corresponding table.

#### Employment



#### Unemployment Rate





#### WHAT IF NEXT MONTH'S SEASONALLY ADJUSTED ESTIMATE IS:

Trend as published (1) 6.2 i.e. rises by 2.20% (2) 5.9 i.e. falls by 2.20%

	Trend as published	(1) 6.2 i.e. rises by 2.20%	(2) 5.9 i.e. falls by 2.20%
2015			
October	6.0	6.0	6.0
November	5.9	5.9	5.9
December	5.9	5.9	5.9
2016			
January	5.8	5.9	5.9

## Standard Errors

### STANDARD ERRORS

#### STANDARD ERRORS

The estimates in this publication are based on information gained from the occupants of a sample survey of dwellings. Because the entire population is not surveyed, the published original, seasonally adjusted and trend estimates are subject to sampling error. The most common way of quantifying such sampling error is to calculate the standard error for the published estimate or statistic. For more information, see paragraphs 25 to 27 of the Explanatory Notes.

#### LEVEL ESTIMATES

To illustrate, let us say the published level estimate for employed persons aged 15-19 years is 700,000 and the associated standard error is 9,000. The standard error is then used to interpret the level estimate of 700,000. For instance, the standard error of 9,000 indicates that:

- There are approximately two chances in three that the real value falls within the range 691,000 to 709,000 (700,000 + or - 9,000)
- There are approximately nineteen chances in twenty that the real value falls within the range 682,000 to 718,000 (700,000 + or - 18,000).

The real value in this case is the result we would obtain if we could enumerate the total population.

The following table shows the standard errors for this month's level estimates.

	AUSTRALIA						
	NSW	Vic.	Qld	SA	WA	Tas.	NT ACT Males Females Persons
Aged 15 years and over							
Employed							

Unemployed	Full time	'000	25.7	18.3	17.3	7.4	11.3	2.9	2.4	2.9	31.8	23.2	38.6
	Part time	'000	18.3	12.0	11.7	5.5	8.2	2.2	0.7	1.9	13.6	21.1	26.2
	Total	'000	28.2	22.5	19.9	8.6	12.4	3.4	2.8	3.0	34.8	32.3	43.8
	Looking for f/t work	'000	9.6	8.6	8.7	3.4	5.1	1.2	0.8	1.1	12.9	10.7	16.9
	Looking for p/t work	'000	5.9	5.6	5.1	2.0	2.7	0.7	0.3	0.8	6.6	7.6	10.1
	Total	'000	11.4	10.3	9.6	3.8	5.8	1.4	0.9	1.4	14.6	13.2	19.9
Labour force	'000	28.6	23.3	20.4	8.8	12.5	3.5	2.9	3.0	35.8	33.3	44.7	
Not in labour force	'000	24.3	21.3	22.5	8.3	12.0	3.5	3.2	3.1	31.0	36.0	42.3	
Unemployment rate													
	Looking for f/t work	pts	0.3	0.4	0.5	0.6	0.5	0.7	0.7	0.7	0.2	0.3	0.2
	Looking for p/t work	pts	0.5	0.6	0.7	0.7	0.6	0.8	1.1	1.3	0.5	0.3	0.3
	Total	pts	0.3	0.3	0.4	0.4	0.4	0.6	0.6	0.6	0.2	0.2	0.2
Participation rate		pts	0.5	0.5	0.5	0.6	0.6	0.8	1.5	1.0	0.4	0.3	0.2
Aged 15-19 years													
Employed													
	Full time	'000	4.1	2.0	2.8	1.1	1.9	0.5	0.2	0.5	4.8	4.2	5.9
	Part time	'000	5.6	3.5	4.0	1.7	2.6	0.7	0.2	0.7	6.1	7.1	9.0
	Total	'000	6.6	3.9	4.9	2.0	3.2	0.9	0.3	0.8	7.4	7.8	10.5
Unemployed													
	Looking for f/t work	'000	3.4	2.7	3.4	1.3	1.8	0.4	0.1	0.2	4.6	3.8	6.0
	Looking for p/t work	'000	3.7	3.3	3.1	1.2	1.6	0.5	0.2	0.4	4.7	4.2	6.3
	Total	'000	5.1	4.3	4.8	1.8	2.4	0.7	0.3	0.5	6.6	5.7	8.7
Labour force	'000	7.5	4.5	5.5	2.2	3.5	1.0	0.3	0.9	8.3	8.5	11.7	
Not in labour force	'000	9.2	5.7	7.5	2.8	3.9	1.0	0.7	1.2	10.3	9.4	14.3	
Unemployment rate													
	Looking for f/t work	pts	3.8	5.5	4.8	7.2	5.2	5.9	4.2	7.7	2.8	3.4	2.2
	Looking for p/t work	pts	2.1	2.2	2.5	2.9	2.5	3.5	3.6	4.0	1.8	1.3	1.1
	Total	pts	2.0	2.2	2.5	3.1	2.4	3.1	3.0	3.6	1.6	1.3	1.0
Participation rate		pts	1.6	1.2	1.8	2.2	2.2	3.0	1.9	3.9	1.1	1.2	0.8
Unemployment to population ratio - looking for f/t work		pts	0.7	0.7	1.1	1.2	1.1	1.3	0.9	1.0	0.6	0.5	0.4

Looking for f/t work	'000	9.8	8.5	8.2	3.5	5.3	1.2	0.8	1.2	12.8	10.6	16.8
Looking for p/t work	'000	6.1	5.6	4.5	2.2	2.9	0.8	0.3	0.9	6.6	7.6	10.1
Total	'000	11.7	10.2	9.6	4.0	6.1	1.4	0.8	1.4	14.5	13.1	19.9
Labour force	'000	18.8	15.5	13.7	6.0	9.1	2.3	2.1	2.2	21.3	19.7	30.3
Not in labour force	'000	18.1	15.3	13.5	5.9	8.9	2.2	2.0	2.3	18.0	22.1	29.6
Unemployment rate												
Looking for f/t work	pts	0.3	0.4	0.5	0.6	0.5	0.7	0.7	0.7	0.2	0.3	0.2
Looking for p/t work	pts	0.5	0.6	0.7	0.7	0.7	0.9	1.1	1.3	0.6	0.3	0.3
Total	pts	0.3	0.3	0.4	0.5	0.4	0.6	0.6	0.6	0.2	0.2	0.2
Participation rate	pts	0.3	0.3	0.4	0.4	0.4	0.5	1.1	0.7	0.2	0.2	0.2
Aged 15-19 years												
Employed												
Full time	'000	2.8	2.0	1.9	0.7	1.3	0.4	0.3	0.3	3.5	3.0	4.1
Part time	'000	3.9	3.3	2.7	1.3	1.9	0.5	0.4	0.5	4.3	4.9	6.1
Total	'000	4.5	3.6	3.1	1.4	2.2	0.6	0.5	0.6	5.1	5.3	7.0
Unemployed												
Looking for f/t work	'000	3.5	2.7	3.0	1.3	2.0	0.4	0.2	0.3	4.6	3.8	6.0
Looking for p/t work	'000	3.8	3.5	2.8	1.5	1.8	0.6	0.2	0.6	4.7	4.4	6.3
Total	'000	5.3	4.3	4.2	1.8	2.7	0.7	0.3	0.7	6.6	5.7	8.7
Labour force	'000	4.9	4.0	3.4	1.5	2.4	0.7	0.5	0.6	5.6	5.7	7.6
Not in labour force	'000	5.7	4.7	3.7	1.8	2.6	0.7	0.8	0.7	6.8	6.3	8.8
Unemployment rate												
Looking for f/t work	pts	4.0	5.7	5.0	7.8	5.6	7.4	5.1	13.7	2.9	3.7	2.3
Looking for p/t work	pts	2.2	2.3	2.4	3.1	2.7	3.9	3.7	4.4	1.9	1.3	1.1
Total	pts	2.0	2.3	2.5	3.2	2.6	3.5	3.2	4.2	1.6	1.3	1.0
Participation rate	pts	1.0	1.1	1.1	1.5	1.5	2.0	3.4	2.7	0.7	0.8	0.5
Unemployment to population ratio - looking for f/t work	pts	0.7	0.8	1.0	1.2	1.2	1.3	1.2	1.5	0.6	0.5	0.4

## Quality Declaration - Summary

### QUALITY DECLARATION - SUMMARY

#### INSTITUTIONAL ENVIRONMENT

Labour Force statistics are compiled from the Labour Force Survey which is conducted each month throughout Australia as part of the Australian Bureau of Statistics (ABS) household survey program. For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

#### RELEVANCE

The Labour Force Survey provides monthly information about the labour market activity of Australia's resident civilian population aged 15 years and over. The Labour Force Survey is designed to primarily provide estimates of employment and unemployment for the whole of Australia and, secondarily, for each state and territory.

#### TIMELINESS

The Labour Force Survey enumeration begins on the Sunday between the 5th and 11th of

the month, except for the Christmas and New Year holiday period. In December enumerations starts between the 3rd and 9th (4 weeks after November enumeration begins). In January enumeration starts between the 7th and 13th (5 weeks after December enumeration begins).

Key estimates from the Labour Force Survey are published in two stages. The first, Labour Force, Australia (cat. no. 6202.0), is released 39 days after the commencement of enumeration for the month, with the exception of estimates for December which are published 46 days after the commencement of enumeration.

The second stage includes detailed data that were not part of the first stage and are published in Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001) and Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003). The second stage is released 7 days after the first stage.

## **ACCURACY**

The Labour Force Survey is based on a sample of private dwellings (approximately 26,000 houses, flats etc) and non-private dwellings, such as hotels and motels. The sample covers about 0.32% of the Australian civilian population aged 15 years or over. The Labour Force Survey is designed primarily to provide estimates of key labour force statistics for the whole of Australia and, secondarily, for each state and territory.

Two types of error are possible in an estimate based on a sample survey: non-sampling error and sampling error.

Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The Labour Force Survey receives a high level of cooperation, with an average response rate for the last year being 94%.

Sampling error occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all dwellings in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors.

Standard errors of key estimates and movements since the previous month are available in Labour Force, Australia (cat. no. 6202.0). The standard error of other estimates and movements may be calculated by using the spreadsheet contained in Labour Force Survey Standard Errors, Data Cube (cat. no. 6298.0.55.001).

## **COHERENCE**

The ABS has been conducting the Labour Force Survey each month since February 1978. While seeking to provide a high degree of consistency and comparability over time by minimising changes to the survey, sound survey practice requires careful and continuing maintenance and development to maintain the integrity of the data and the efficiency of the collection.

The changes which have been made to the Labour Force Survey have included changes in sampling methods, estimation methods, concepts, data item definitions, classifications, and time series analysis techniques. In introducing these changes the ABS has generally revised previous estimates to ensure consistency and coherence with current estimates. For a full list of changes made to the Labour Force Survey see Chapter 20 in Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001).

## **INTERPRETABILITY**

The key estimates from the Labour Force Survey are available as original, seasonally adjusted and trend series. Seasonal adjustment is a means of removing the effects of normal seasonal variation from the series so other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular influences which may be present and therefore month-to-month movements may not be reliable indicators of underlying behaviour. To assist in interpreting the underlying behaviour, the ABS produces the trend series by smoothing the seasonally adjusted series to reduce the impact of the irregular component. For further information, see A Guide to Interpreting Time Series - Monitoring Trends (cat. no. 1349.0).

Further information on the terminology and other technical aspects associated with statistics from the Labour Force Survey can be found in the publication Labour Force, Australia (cat. no. 6202.0), which contains detailed Explanatory Notes, Standard Error information and a Glossary.

## **ACCESSIBILITY**

Please see the Related Information tab for the list of products that are available from this collection.